Hunters Pt Radiation Meeting 4/12/16 – Draft notes

Participants included Greenaction/EJ Task Force (e.g. Bradley Angel, Marie Harrison), UCSC (e.g. Dan Hirsch), Navy BRAC (e.g. Derek Robinson, Danielle Janda), Navy RASO (Zachary Edwards, Matt Slack), EPA Region 9 (e.g. Angeles Herrera, Lily Lee, Rob Terry, John Chesnutt, Jackie Lane), DTSC (Nina Bacey)

Issues/concerns raised by UCSC and EJ Task Force – draft notes

- 1. Does the Navy agree under CERCLA Fed Facility on NPL must be cleaned up consistent w/guidelines, rules, criteria of EPA? (See Section 120(a)(2) of CERCLA requires all Fed Facilities)
- 2. Re 2006 release criteria, which have not since been updated,
 - a. Only the soil criteria reference EPA PRG's. What about Surfaces?
 - b. Don't buildings fall under CERCLA too?
 - c. Note b states "These limits are based on 25 mrem/yr," but EPA would have required at most 15 mrem/yr at the time and 12/ mrem/yr now
 - d. Where is documentation that these criteria met EPA appropriate standards in 2006?
 - e. Why haven't they been updated to become more conservative to be consistent with updates to EPA approaches nationwide?
 - f. For example, the standard for Plutonium-239 (previously 2.59 pCi/g Residential soil) should now be 2 orders of magnitude lower now.
 - g. Cite 40 year old AEC Reg Guidance, which cannot be used
 - h. Cite 1991 EPA PRG, which is too old
- 3. EPA is supposed to approve the original cleanup standard using EPA approaches and update them routinely. EPA should not be evaluating afterwards.
- 4. EPA's analysis of Navy SUPR
 - a. Based on mean, but for suburban residential, you are generally not supposed to average.
 - b. Not supposed to be using net above background. It is supposed to use the full reading, not just incremental.
 - c. One has wrong conversion factor.
- 5. Because the cleanup standards were not strict enough, radioactive material that is at 24 mrem/yr could have been considered "safe" and these people could be at risk:
 - a. future residents could be living on top of radioactive material that should have been removed.
 - b. Neighborhood residents could be exposed to dust from excavation that was not properly controlled because it was considered safe because it was below release

DRAFT deliberative - do not quote or cite

- criteria.
- c. Neighborhood residents could be exposed to dust from trucks transporting waste that was not properly controlled because it was considered safe because it was below release criteria.
- d. Waste going to landfills could be at unsafe levels and expose residents of Kettleman City and Buttonwillow, which are EJ Communities
- e. Where is documentation of sampling results for soil that is transported? Could some of it have had levels of less than 25 mrem/year but above 12 or 15 mrem/yr?
- 6. Containment (Durable covers) and Institutional control (restrictions on planting vegetables in soil) should not be the solution to radiological waste. Instead, all unsafe levels should be removed.

7. Tetra Tech

- a. Why are they still doing work at Hunters Pt when they are proven to have falsified samples? Shouldn't the Navy fire Tetra Tech? Or at least suspend their work during an investigation period?
- b. If Navy won't fire/suspend Tetra Tech, why won't EPA do it?
- c. How much of the radiological work at Hunters Point was done by Tetra Tech?
- d. How can we trust any results from Tetra Tech?
- e. Who did the resampling? If it was Tetra Tech, then how can we trust the resampling?
- f. Has EPA taken its own independent samples?
- g. Residents are scared that they are being exposed to radiation now because Tetra Tech falsified samples.
 - i. People living on Parcel A
 - ii. People in the surrounding community that could be breathing dust from excavation or trucks?
- h. How could an EPA staff person say that "Tetra Tech is a good company?"

Attachment – 2006 Release Criteria

ED_000855_00002357-00003

TABLE 1 RELEASE CRITERIA

Radionuclide	Surfaces			Soil ^d (pCi/g)				
	Equipment, Waste (dpm/100 cm ²) ^a	Structures (dpm/100 cm ²) ^b	Residual Dose (mrem/yr) ^c	Outdoor Worker (pCi/g) ^e	Residual Dose (mrem/yr) ^c	Residential (pCi/g) ^e	Residual Dose (mrem/yr) ^c	Water ^b (pCi/L)
Americium-241	100	100	18.7	5.67	0.8661	1.36	24.84	15
Cesium-137	5,000	5,000	1.72	0.113	0.2142	0.113	0.2561	119
Cobalt-60	5,000	5,000	6.01	0.0602	0.5164	0.0361	0.3918	100
Europium-152	5,000	5,000	3.21	0.13 ^f	0.5018	0.13 ^f	0.502	60
Europium-154	5,000	5,000	3.49	0.23 ^f	0.9593	0.23 ^f	0.9599	200
Plutonium-239	100	100	18.1	14.0	1.743	2.59	1.138	15
Radium-226	100	100	0.612	1.0 ^g	6.342	1.0 ^g	14.59	. 5 ⁱ
Strontium-90	1,000	1,000	0.685	10.8	0.1931	0.331	1.648	8
Thorium-232	1,000	36.5	24.9	2.7	24.91	1.69	25	15
Tritium	5,000	5,000	0.00053	4.23	0.00179	2.28	0.05263	20,000
Uranium-235+D	5,000	488	25	0.398	0.178	0.195	0.8453	30

These limits are based on AEC Regulatory Guide 1.86 (1974). Limits for removable surface activity are 20 percent of these values.

These limits are based on 25 mrem/yr, using RESRAD-Build Version 3.3 or Regulatory Guide 1.86, whichever is lower.

The resulting dose is based on modeling using RESRAD-Build Version 3.3 or RESRAD Version 6.3, with radon pathways turned off.

EPA PRGs for two future-use scenarios.

060676 EniRevEniRWRad Action Action Memo doc

The on-site and off-site laboratory will ensure that the MDA meets the listed release criteria by increasing sample size or counting time as necessary. The MDA is defined as the lowest net response level, in counts, that can be seen with a fixed level of certainty, customarily 95 percent. The MDA is calculated per sample by considering background counts, amount of sample used, and counting time.

Hunters Point Shipyard, San Francisco, California, April 21, 2006 (see more footnotes on next Final Basewide Radiological Removal Action, Action Memorandum -

page)

Source:

TABLE 1

RELEASE CRITERIA

- Based on EPA-decay corrected PRGs for commercial reuse and a previous action memorandum (TtEMI, 2000a, 2001).
- Elimit is 1 pCi/g above background, per agreement with EPA.
- Release criteria for water have been derived from Radionuclides Notice of Data Availability Technical Document, (EPA, 2000) by comparing the limits from two criteria and using the most conservative limit.
- Limit is for total radium concentration.

AEC - Atomic Energy Commission

cm² - square centimeters

dpm - disintegrations per minute

EPA - U.S. Environmental Protection Agency

MDA - minimum detectable activity

mrem/yr - millirem per year

pCi/g - picocurie per gram

pCi/L - picocurie per liter

PRG - preliminary remediation goal

TtEMI - Tetra Tech EM, Inc.